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10      .TITLE      COPY256 6-20-91
20      .OPT OBJ
30      *= $8500
40 CIOV = $E456
50 DSKINV = $E453
60 SIOV = $E459
70 DOSVEC = $0A
80 DOSINI = $0C
90 COLDST = $0244
0100 KBDHND = $E420
0110 DISPLA = $E410
0120 GETCH = $8300 ;POINTER KEYBD HANDLER
0130 OUTCH1 = $8302 ;POINTER TO DISPLA HANDLER
0140 CHAR = $02FA
0150 ATACHR = $02FB
0160 INBUF = $8400 ;TEMP WORK AREA
0170 SDRIVE = $8304 ;SOURCE DRIVE
0180 DDRIVE = $8305 ;DEST DRIVE
0190 NUMBER = $8306 ;NUMBER OF COPIES
0200 FFLAG = $8307 ;FORMAT FLAG
0210 SECTLO = $8308
0220 SECTHI = $8309
0230 D301 = $8310 ;SAVED
0240 WRTC = $8312 ;VERIFY FLAG
0250 BKTEST = $8313 ;BANKING TEST
0260 TNUM = $8314
0270 TEMP1 = $8315
0280 TEMP2 = $8316
0290 BUSCMD = $8317
0300 DENFLG = $8318
0310 SRANGE = $8320
0320 KCOUNT = $8323
0330 TBUFLO = $00 ;INITIAL IO BUFFER
0340 TBUFHI = $40
0350 DDEVIC = $0300 ;BUS I.D. #
0360 DUNIT = $0301 ;DEVICE #
0370 DCOMND = $0302 ;BUS COMMAND
0380 DSTATS = $0303 ; STATUS
0390 DBUFLO = $0304 ;BUFFER POINTER LO
0400 DBUFHI = $0305 ;BUFFER POINTER HI
0410 DTIMLO = $0306 ;DISK TIME OUT
0420 DBYTLO = $0308 ;# OF BYTES LO
0430 DBYTHI = $0309 ;# OF BYTES HI
0440 DAUX1 = $030A ;SECTOR # LO
0450 DAUX2 = $030B ;SECTOR # HI
0470 ;SET UP TITLE
0480 START JSR INIT
0490 NCOPY LDA #1
0500 STA SECTLO ;POINT TO FIRST SECTOR
0510 LDX #MESS1&255
0520 LDY #MESS1/256
0530 JSR PUTLIN ;COPYRIGHT
0540 LDX #MESS2&255
0550 LDY #MESS2/256
0560 JSR PUTLIN ;NUM OF COPIES?
0570 LDX #0
0580 STX SECTHI
0590 STX KCOUNT
0600 STX DENFLG
0610 LDA #$D1
0620 STA SRANGE
0630 LDA #2
0640 STA SRANGE+1
0650 KGET JSR GETKEY ;GET CHARACTER
0660 LDX KCOUNT

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0670      LDA ATACHR
0680      CMP #'X      ;EXIT
0690      BNE CHKD
0700      LDA D301      ;SAVED REG
0710      STA $D301     ;SET IT NORMAL
0720      RTS
0730 CHKD CMP #$44      ;"D" FOR DOUBLE DENSITY
0740      BNE CHKH
0750      STA DENFLG    ;SHOW DD
0760      JMP PRCH
0770 CHKH CMP #'H      '    ;$171 SECTORS
0780      BNE CHKQ
0790      LDY #$72
0800      STY SRANGE
0810      LDY #1
0820      STY SRANGE+1
0830      JMP PRCH
0840 CHKQ CMP #'Q      '    ;$5A0 SECTORS
0850      BNE CHKO
0860      LDY #$A1
0870      STY SRANGE
0880      LDY #5
0890      STY SRANGE+1
0900      JMP PRCH
0910 CHKO CMP #'O      '    ;$B40 SECTORS
0920      BNE CKDIG
0930      LDY #$41
0940      STY SRANGE
0950      LDY #$0B
0960      STY SRANGE+1
0970 PRCH JSR OUTCH    ;PRINT CHAR
0980      JMP KGET
0990 CKDIG CMP #$30     ;LESS THAN 0?
1000      BCC KGET
1010      CMP #$3A      ;MORE THAN 9
1020      BCC NEXTCH
1030      CMP #$9B      ;RETURN?
1040      BNE KGET
1050 NEXTCH STA INBUF,X
1060      JSR OUTCH
1070      INC KCOUNT
1080      CMP #$9B      ;RETURN?
1090      BNE KGET
1100      LDA KCOUNT
1110      CMP #4
1120      BCC K4
1130      JMP NCOPY
1140 K4  CMP #2
1150      BNE TWODIG
1160      LDA INBUF
1170      SEC
1180      SBC #$30
1190      JMP STNUM
1200 TWODIG LDA INBUF ;ASCII TO HEX
1210      SEC
1220      SBC #$30
1230      ASL A
1240      STA NUMBER
1250      ASL A
1260      ASL A
1270      CLC
1280      ADC NUMBER
1290      STA NUMBER
1300      LDA INBUF+1
1310      SEC
1320      SBC #$30

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1330      CLC
1340      ADC NUMBER
1350 STNUM STA NUMBER
1360      STA TNUM
1370 SRCDRV LDX #MESS3&255
1380      LDY #MESS3/256
1390      JSR PUTLIN ;SOURCE DRIVE?
1400 K2   JSR GETKEY
1410      LDA ATACHR
1420      CMP #31 ;LESS THAN 1?
1430      BCC K2
1440      CMP #35 ;MORE THAN 4?
1450      BCS K2
1460      SEC
1470      SBC #30
1480      STA SDRIVE
1490      JSR MYOUT
1500 DESDRV LDX #MESS4&255
1510      LDY #MESS4/256
1520      JSR PUTLIN ;DESTIN DRIVE?
1530 K3   JSR GETKEY
1540      LDA ATACHR
1550      CMP #31 ;LESS THAN 1?
1560      BCC K3
1570      CMP #35 ;MORE THAN 4?
1580      BCS K3
1590      SEC
1600      SBC #30
1610      STA DDRIVE
1620      JSR MYOUT
1630 VERIFY LDX #MESS7&255
1640      LDY #MESS7/256
1650      JSR PUTLIN ;VERIFY DISK?
1660      JSR GETKEY
1670      LDA #50
1680      STA WRTC ;NON VERIFY
1690      LDA ATACHR
1700      CMP #59 ;Y
1710      BNE VER1
1720      LDA #57
1730      STA WRTC
1740 VER1 JSR MYOUT
1750 FORMAT LDX #MESS5&255
1760      LDY #MESS5/256
1770      JSR PUTLIN ;FORMAT DISK?
1780      JSR GETKEY
1790      LDA ATACHR
1800      STA FFLAG
1810      JSR MYOUT
1820 MAIN JMP SRCMSG ;GO WAIT FOR START
1830 RSRC LDA #40
1840      STA BUSCMD
1841      JSR SETUP
1850      JSR READ
1860      JMP DSTMSG
1870 WLOOP JSR FMTDSK
1880 WRT LDA #80
1890      STA BUSCMD
1891      JSR SETUP
1900      JSR WRITE
1910      DEC TNUM ;NUMBER OF COPIES
1920      LDA TNUM ;IN PASS
1930      CMP #0
1940      BNE DSTMSG
1950      STA FFLAG ;TURN OFF FORMAT FLAG
1960      LDA NUMBER ;GET READY FOR NEXT

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1970      STA TNUM      ;PASS
1980      JSR TDONE      ;SEE IF FINISHED
1990 SRCMSG JSR MSG6
2000      JSR BEGIN
2010      JMP RSRG      ;GO READ MORE SECTORS
2020 DSTMSG JSR MSG8
2030      JSR BEGIN
2040      JMP WLOOP      ;GO WRITE NEXT DISK
2050 BEGIN LDA $D01F
2060      CMP #6          ;IS START PUSHED
2070      BNE BEGIN      ;NO. GOTO BEGIN
2080      RTS
2090 FMTDSK LDA FFLAG    ;FORMAT FLAG
2100      CMP #$59        ;"Y"
2110      BNE CONT        ;NO.GOTO CONT
2120      LDA #$80        ;TIMEOUT 120 SEC.
2130      STA DTIMLO
2140      LDA DDRIIVE
2150      STA DUNIT
2160      LDA #$21        ;FORMAT
2170      STA DCOMND
2180      JSR GETRDY
2190      LDA #$40
2200      STA DSTATS
2210      STA DBUFLO
2220      LDA #$80
2230      STA DBUFHI      ;FOR STATUS
2240      JSR SIOV        ;GO FORMAT DISK
2250      BMI FMTDSK      ;TRY AGAIN IF BAD
2260      LDA #TBUFHI
2270      STA DBUFHI
2280 CONT RTS
2290 READ LDA SDRIVE     ;SOURCE DRIVE
2300      STA DUNIT
2310      LDA #$52        ;READ COMMAND
2320      STA DCOMND
2330      LDA SECTLO      ;STORE IN TEMP SO WE
2340      STA TEMP1        ;KNOW WHERE TO WRITE
2350      STA DAUX1        ;AND GET READY
2360      LDA SECTHI      ;FOR I/O CALL
2370      STA TEMP2
2380      STA DAUX2        ;SECTOR TO READ
2390      JSR GETRDY
2400      LDA #TBUFLO
2410      STA DBUFLO
2420      LDA #TBUFHI
2430      STA DBUFHI      ;BUFFER POINTERS
2440 CONT2 JSR SIOV
2450      JSR INCSD
2460      BCC CONT2
2470      RTS
2480 INCSD CLC           ;INCREMENT SECTOR
2490      LDA SECTLO      ;AND BUFFER PIONTERS
2500      ADC #1
2510      STA SECTLO
2520      STA DAUX1
2530      LDA SECTHI
2540      ADC #0
2550      STA SECTHI
2560      STA DAUX2
2570      CMP SRANGE+1
2580      BNE CONT1
2590      LDA SECTLO
2600      CMP SRANGE
2610      BNE CONT1
2620 SETUP LDA #$82      ;BRING IN FIRST

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2630      STA $D301      ;RAM BANK AND
2640      LDA #$90       ;SETUP TEST BYTE
2650      STA BKTEST     ;FOR 1ST RAM BANKS
2660      SEC            ;SET CARRY WHEN DONE
2670      RTS
2680 CONT1 JSR GETRDY
2690      RTS
2700 WRITE LDA DDRIVE   ;GET READY
2710      STA DUNIT     ;TO WRITE
2720      LDA WRTC      ;WRITE COMMAND
2730      STA DCOMND
2740      LDA #10
2750      STA $4D        ;ATTRACT FLAG
2760      STA DTIMLO
2770      LDA TEMP1
2780      STA SECTLO
2790      STA DAUX1
2800      LDA TEMP2
2810      STA SECTHI
2820      STA DAUX2
2830      JSR GETRDY
2840      LDA #TBUFLO
2850      STA DBUFLO
2860      LDA #TBUFHI
2870      STA DBUFHI
2880 CONT3 JSR SIOV
2890      JSR INCSD
2900      BCC CONT3
2910      RTS
2920 GETRDY LDA #$31
2930      STA DDEVIC
2940      LDA BUSCMD
2950      STA DSTATS
2960      LDA DENFLG
2970      BEQ SINGLE
2980      LDA DCOMND
2990      CMP #$21
3000      BEQ B256
3010      LDA SECTLO
3020      CMP #4
3030      BCS B256
3040      LDA SECTHI
3050      BNE B256
3060 SINGLE LDA #0
3070      STA DBYTHI
3080      LDA #$80
3090      STA DBYTLO
3100      CLC
3110      LDA DBUFLO
3120      ADC #$80
3130      STA DBUFLO
3140      LDA DBUFHI
3150      ADC #0
3160      STA DBUFHI
3170      JMP RDT
3180 B256 LDA #0
3190      STA DBYTLO
3200      LDA #1
3210      STA DBYTHI
3220      CLC
3230      LDA DBUFHI
3240      ADC #1
3250      STA DBUFHI
3260 RDT LDA DBUFHI      ;DON'T DELETE THIS DUMMY
3270      CMP #$7F       ;AT TOP OF BANK?
3280      BCC BDT4       ;NO

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3280 BCC RDT4 ;NO
3290 CLC
3300 LDA $D301
3310 ADC #4 ;GO TO ANOTHER BANK
3320 CMP BKTEST ;ANY FIRST BANKS LEFT
3330 BCC RDT3 ;YES
3340 CLC ;SET UP NEXT SET OF BANKS
3350 ADC #$10
3360 STA $D301
3370 CLC
3380 LDA #$20 ;SET UP NEXT 4 BANKS
3390 ADC BKTEST
3400 STA BKTEST
3405 ADC #$20 ;MAKE SURE WE STOP AFTER CF BANK
3410 BCC RDT5
3420 LDA D301 ;NO BANKS LEFT
3430 STA $D301 ;RESET TO NORMAL
3440 RDT4 RTS
3450 RDT3 STA $D301
3460 RDT5 LDA #0 ;RESET BUFFERS FOR
3470 STA DBUFLO ;XTRA BANKS
3480 LDA #$40
3490 STA DBUFHI
3500 CLC
3510 RTS
3520 MESS2 .BYTE "HOW MANY COPIES? (X TO EXIT)", $9B
3530 MESS3 .BYTE "SOURCE DRIVE?", $9B
3540 MESS4 .BYTE "DESTINATION DRIVE?", $9B
3550 MESS7 .BYTE "VERIFY WRITES?(Y OR N)", $9B
3560 MESS5 .BYTE "FORMAT DESTINATION (Y or N)?", $9B
3570 MESS6 .BYTE "}}INSERT SOURCE DISK, PUSH START}", $9B
3580 MESS8 .BYTE "}}INSERT DESTINATION DISK, PUSH START}", $9B
3590 MSG6 LDX #MESS6&255
3600 LDY #MESS6/256
3610 JMP PUTLIN ;SOURCE DISK
3620 MSG8 LDX #MESS8&255
3630 LDY #MESS8/256
3640 JMP PUTLIN ;NEXT DISK
3650 TDONE LDA SECTLO
3660 CMP SRANGE
3670 BNE TRTS
3680 LDA SECTHI
3690 CMP SRANGE+1
3700 BNE PRTS
3710 LDA D301
3720 STA $D301 ;RESTORE MAP REG
3730 PLA ;CLEAN UP STACK
3740 PLA ;BEFORE JMP OUT OF SUBROUTINE
3750 JMP START ;RESTART
3760 TRTS RTS
3770 MYOUT LDA ATACHR
3780 OUTCH JMP (OUTCH1) ;TO OS TO PRINT CHARACTER
3790 GETKEY JMP (GETCH) ;GO TO OS AND GET KEY
3800 INIT LDA $D301 ;BANK MAP
3810 STA D301 ;SAVE IT FOR EXIT
3860 LDA #10
3870 STA DTIMLO ;SET DEVICE TIMEOUT
3880 LDA KBDHND+5 ;SET UP FOR CALL TO GET KEYBOARD CHARACTER
3890 STA GETCH+1 ;VIA JMP(GETCH)
3900 LDA KBDHND+4
3910 CLC
3920 ADC #1 ;FOR SCREWED UP VECTOR TABLE
3930 STA GETCH ;IF WE CROSS PAGE BOUNDARY
3940 BCC SOUTCH
3950 INC GETCH+1 ;ADD 1 TO HIGH BIT
3960 SOUTCH LDA DISPLA+7 ;SAME AS ABOVE TO PRINT CHR.
3970 STA OUTCH1+1 ;VIA JMP(OUTCH1)

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```
3980      LDA DISPLA+6
3990      CLC
4000      ADC #1
4010      STA OUTCH1
4020      BCC GOON
4030      INC OUTCH1+1
4040 GOON RTS
4050 MESS1 .BYTE "}COPY256 V1.2(C)1991 NEWELL INDUSTRIES",$9B
4060 PUTLIN TXA      ;PUT LINE ON SCREEN
4070      LDX #0
4080      STA $0344,X
4090      TYA
4100      STA $0345,X
4110      LDA #9
4120      STA $0342,X
4130      LDA #$FF
4140      STA $0348,X
4150 END JMP CIOV
4160      .END
```